

Windows Terminal Server

Windows Server 2003 and Beyond

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Windows Server 2003

Windows Servers provide the foundation for connecting people, technologies and organizations



A platform for productively developing, deploying and operating applications & services that federate seamlessly and scale without limits



Out
by adding
machines

Up
any large
systems



Down
deliver
services to
any device



Away
to span
geography,
organizations



Windows Terminal Server

Rapid access to data and applications from anywhere



Agency Partners



Knowledge Workers



Task Workers

Windows NT, 9x



VPN

Windows 2000, XP



xDSL/Cable



Smart Devices

Dial-up

Wireless LAN



Windows Terminal Services

Applications



Microsoft Great Plains Business Solutions



Microsoft Office

Data

WANs



Thin Clients

UNIX/Mac LAN



Centralized access to Windows-based applications

Faster application performance over constrained network connections

Experience Windows on virtually any computing device

What Is Terminal Services?

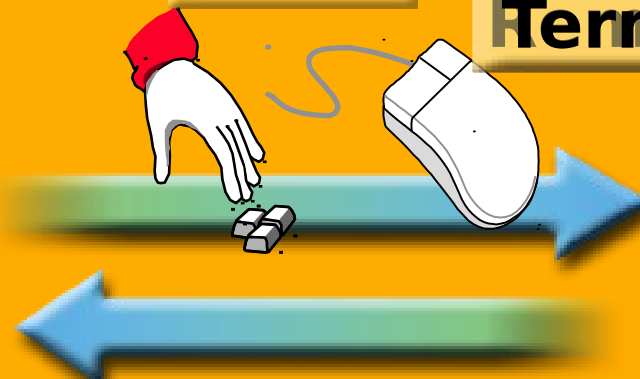
- Terminal Services provides a graphical user interface to remote devices over a network, WAN connection, or Internet connection
- All application and data processing takes place on the server: clients do not require significant amounts of RAM or processing power.
- Why use Terminal Services?
 - Makes line-of-business applications available to mobile users, branch offices, or workers using terminals based on Microsoft Windows
 - Ideal for providing desktop users with access to limited, nonstandard, or frequently used applications
 - Provides centralized management and control of applications

How does Terminal Server work?

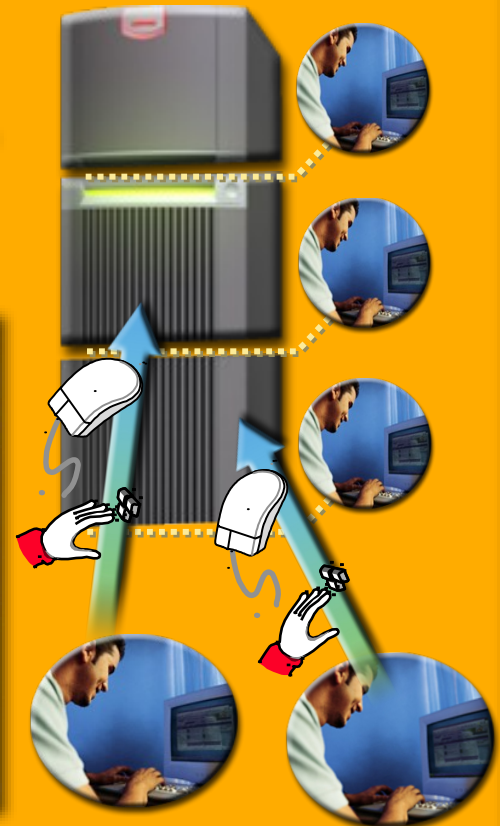
Client



**RDP 5.2
TCP/IP**



**WWS 2003P
Terminal Server**



Using Terminal Server with:

Windows XP Pro/2000 PCs

- Centralized deployment of LOB applications
- Access to apps and data over “low” bandwidth
 - XP users can use Remote Desktop if PC is located in Office

• Windows Powered Thin Clients

- Ideal for Task workers using 100% managed applications (e.g. ex-“green-screen” users)
- Location is “PC unfriendly” (e.g. clean room or factory floor) or far from support personnel

• Older Windows PCs

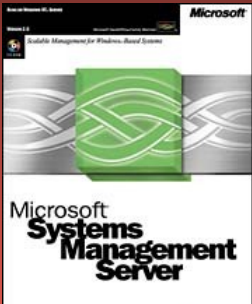
- Occasional access to specific applications that can't be deployed or executed locally
- Run entire desktop remotely (thin client)

• Non-Windows-based Desktops

- Extend reach of Windows applications within the enterprise
- Cut and paste data between Windows and non-Windows -based applications

Management Products

Microsoft Solution



Third Party Solutions

- Citrix MetaFrame XPa/XPe
- New Moon Canaveral iQ
- Softricity SoftGrid for TS
- Emergent Online THINssential

App
Deployment
System
Inventory

Event
Collection
Alerting
Monitoring

App Deployment
System Inventory
Printer
Management
Event Collection
Alerting
Monitoring

Windows Terminal
Servers



Scalability Today:

- **Scale-up enhancements**
 - **Supports more processors and RAM per server**
 - Alleviated kernel address space limitations in 32-bit server
 - 64-bit has exponentially more kernel address space
 - **Still tuning for maximum Terminal Server scalability**
 - Focusing on 32-bit
 - 32-bit applications on 64-bit not cost effective due to processor and RAM overhead
- **Scale-out support**
 - **Session Directory (Enterprise and DC Server only)**
 - Routes users to disconnected session across farm
 - Load balancer agnostic - enhanced IIR support

Improvements to Terminal Server in Windows Server 2003

- **New and Improved RDP Client: 5.2**
 - **Advanced Resource Redirection: (Disk drives, Local and Network Printers, Serial devices, Smart card, Clipboard, Time zone, Audio output, Windows key combos,)**
 - **Hi Color (Up to 24-bit), High Resolution (1600x1200)**
- **Enhanced Manageability**
 - **WMI, Group Policy, ADSI, MMC Snap-In, Software Restriction Policy**
 - **Windows System Resource Manager (WSRM)**
 - **Included in Windows Server 2003, Enterprise Edition**
- **Increased Scalability**
 - **Scale-up**
 - **Scale-out (Session Directory)**
- **Enhanced Security**
 - **128-bit bi-directional RC4 encryption**
 - **FIPS 140-1 Encryption Level**
 - **Smart Card Support**

Summary: Comparison to previous versions

<i>Feature</i>	<i>NT 4.0</i>	<i>Win2000</i>	<i>WS2003</i>	
Session Directory (LB Support)			✓	New
File System/Drive Redirection			✓	New
COM Port Redirection			✓	New
Per-User Time Zone			✓	New
High Color (24-bit)/ (1200x1600)			✓	New
Audio System Redirection			✓	New
Auto-Reconnect			✓	New
Network Printing			✓	
Local Printing		✓	✓	
Clipboard Copy/Paste		✓	✓	
Web Browser Client		✓	✓	
Remote Control		✓	✓	
Disconnect	✓	✓	✓	
Low Bandwidth Support	✓	✓	✓	

Run Applications Locally or Remotely?

Scenario	Execute Application Locally	Execute Application Remotely
Offline access to data	✓	
Processor economy of scale	✓	
Resource- or processor-intensive applications	✓	
16-bit applications for Windows and MS-DOS	✓	
Self-installed applications	✓	
Access to diverse peripherals	✓	
Infrequently used/frequently updated applications		✓
Low-bandwidth access		✓
'PC-unfriendly' environments		✓
Non-Windows-based desktops		✓
Applications in transition		✓
External agency users		✓

Windows Terminal Server Benefits

- **Centralized access to Windows-based applications**
 - Rapid Deployment
 - Centralized Updates and Support
 - Data Security
- **Faster performance over low bandwidth connections**
 - Mobile Access
 - Faster Performance = Better User Experience
 - Minimize Networking Costs
- **Experience Windows on any computing device**
 - Non-PC Desktops (WBT, Mac, UNIX etc)
 - Lightweight devices (PDA, Cell Phone etc)

Terminal Services Commitment

- **Microsoft is committed to server-based computing as a customer-driven option for deploying Windows-based applications**
- **Windows 2003 is the best platform for server-based computing today**
- **Microsoft has enhanced its Terminal Services technology with Windows 2003 and will continue to do so**

Summary

- **Using Terminal Server technologies in new and exciting ways.**
- **Providing a stand alone platform while allowing for third parties to extend**
- **Leveraging existing MS management technologies rather than re-inventing the wheel**



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